Title Page

Task 1: Enhance an Organization’s Data Quality Management Capability Level

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Strategic Plan for Data Quality Management in an Online Retail Company

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1.Introduction

In today's digital world, data plays a major role in organizations evaluating their performance to make informed decisions. As King and Schwarzenbach (2020) explain, data should be viewed as a key organizational asset, comparable to physical assets or human talent, because it possesses long-term value. This definition brings to light how important it is to manage data properly. To achieve this, businesses need to focus on keeping their data accurate, reliable, and useful. Wang and Strong (1996) accurately defined data quality as "data that are fit for use by data consumers" (as cited in King and Schwarzenbach 2020, p. 6).

King and Schwarzenbach (2020) offer a practical view by defining data quality as accessing the right data at the time needed for the right users to make effective decisions (p.11).

Even though the importance of high data quality is well known, the online retail company focused on in this assignment is facing major challenges that compromise the value of its data. These challenges include *departmental data silos and communication gaps, inconsistent data storage procedures*, *absence of data governance and standardized data management, and poor interdepartmental data sharing*. All of this contributes to increased data security risks and reduced innovation.

The main aim of this assignment is to develop a strategic plan to enhance data quality management capabilities across departments within an online retail company to support more informed decision-making.

This assignment will focus on improving internal data quality management processes and frameworks that directly address the identified issues. Advanced analytics methods, broader technological database systems, and external regulations fall outside the scope of this assignment unless they are specifically related to the proposed solutions.

Following this introduction, the assignment will start by analyzing the main data quality issues in the online retail company, focusing on their causes and consequences. Subsequently, using frameworks such as maturity models and data quality dimensions from King and Schwarzenbach, a strategic plan to improve data quality in the online retail business will be developed. Finally, the proposed plan will be critically evaluated by comparing it with academic literature and best practices from similar organizations, concluding with a summary of key findings and reflections.

2.Main Body

First, it is imperative to analyze how the online retail company currently manages its data, as these practices are leading to data decay and consequently reducing the overall effectiveness of its business operations.

2.1 Analysis of Current Data Management Challenges

Although online retail companies gather a large amount of data daily, they struggle with serious internal data management issues that reduce its data quality and negatively impact both efficiency and innovation. If nothing is done to fix them, these challenges will continue to hold back the company's growth and its ability to make good decisions.

2.1.1 Departmental Data Silos and Communication Gaps

Data silos are "isolated collections of data that obstruct data sharing between different departments, systems and business units" (Badman and Kosinski, 2025). This issue is clearly visible in online retail companies, where each department manages customer data, product information, orders, employee records as well as salary transactions independently. If left unaddressed, these silos can make it very challenging for organizations to work efficiently. To understand this challenge fully, it is crucial to explore what causes these silos.

2.1.2 Causes of Departmental Data Silos and Communication Gaps

Data silos in organizations usually develop due to several interrelated factors. According to Zuar (2023), key factors that contribute to data silo formation include the uncontrolled spread of data sources, fast organization growth, rigid department structures, limited technology, and even reluctance to share information internally.

Zuar (2023) states that, "The primary factor leading to unintentional data silos is decentralized IT services, where data silos occur as departments procure their software and technologies without verifying compatibility with existing systems." The growing use of Software-as-a-Service (SaaS) platforms makes this issue worse, since many of these platforms do not work well together.

Additionally, company culture and how the organization is structured also play a major role, especially in the absence of formal governance frameworks.
Departments usually work independently, and in some cases, teams may withhold data on purpose to retain control or influence, a practice known as competitive gatekeeping (Zuar, 2023).
This analysis sets the stage for looking into the consequences of departmental data silos and communication gaps across departments.

2.1.3 Consequences of Departmental Data Silos and Communication Gaps

"Data silos create a combination of tangible and intangible costs that negatively impact business performance" (Zuar 2023). Zuar (2023) further explains that keeping data separated in different

departments leads to *duplicated efforts*, *high storage expenses*, and *heavier workloads.* In an online retail company, this might look like different departments, gathering and managing the same customer contact details separately, or maintaining separate product inventories with inconsistent details, which wastes time and resources.

Beyond financial impact, data silos increase compliance risks by making it challenging to manage regulatory requirements. For online retailers that handle sensitive customer and payment data, poor data integration can lead to violations of privacy regulations which may result in large fines and reputational damage.

On top of that, data silos also cause poor communication, which leads to slower decision-making, weak collaboration between departments, and inconsistent data quality. Altogether, these challenges reduce innovation, increase costs, and diminish customer satisfaction (Zuar, 2023).

Addressing these underlying issues is crucial for establishing enterprise-wide data visibility and enabling more efficient, adaptive and data-driven operations.

2.2 Inconsistent Data Storage Procedures

*"*Data inconsistency is the concept where there are conflicts or different copies of the same data in the database*"* (GeeksforGeeks, 2023).

This challenge is illustrated in a case study from StatStuff, where a telecommunications company terminated a $15 million annual contract because their vendor's inconsistent data collection led to unreliable and irrelevant analysis (Hansen, n.d.). Cases like this show how poor data practices can create serious problems, including inefficiency, financial losses, and loss of trust in the organization's systems. With this in mind, it is necessary to explore the causes behind data inconsistencies.

2.2.1 Causes of Inconsistent Data Storage

Data inconsistency can arise from several factors, each affecting data integrity and smooth running of operations in different ways. One of the most common reasons is *manual data entry errors*, such as typographical or formatting mistakes. For instance, a customer's address might be typed incorrectly, a name misspelled, or a date entered in the wrong format.

A data clerk might accidentally type *Kofy Opare* instead of *Kofi Opare* or enter a date as *08/07/88* instead of the correct format. Such errors can compromise the accuracy and reliability of data (Swift, 2025).

System migration or integration issues are another essential cause of inconsistent data storage. They occur when data isn't properly handled during a system change. Problems like data being misread, formatting changes, or system incompatibility can affect the quality of the transferred data. For instance, if the customer's address is saved as *51061, Köln* in the old system but appears as

51061*, Koeln* in the new, even small discrepancies like this can create confusion within the organization (Swift, 2025).

Finally, a lack of standardized data entry methods is another significant cause of data inconsistency. For instance, one employee might record a customer's phone number as *001122334455*, while another records it as *00-11-22-33-44-55*. Although both refer to the same number, the system may treat them as separate values, resulting in data duplication and reduced reliability (Swift, 2025).

With these identified causes established, the next section will explore the consequences of inconsistent data storage in businesses, emphasizing how these issues can negatively impact operations, decision-making, and customer satisfaction.

2.2.2 Consequences of inconsistent data storage

One major consequence of *inconsistent data storage* is compromised data integrity Swift (2025) explains that data integrity means keeping information accurate, consistent, and reliable, an important aspect compromised by poor data management practices.

In my previous role at *MTN GHANA*, I was responsible for monitoring electronic sales through Salesforce, which involved checking for field inactivity and resolving issues to ensure smooth operations. I regularly observed significant discrepancies between physical sales figures and those recorded electronically. After some investigation, I discovered that sales representatives were selling physical stocks to customers but weren't entering those transactions into the system using their devices.

For that reason, the data collected at the back office had no real value. We could not trust or use it to make informed decisions. As a result, the data used for performance evaluation lacked integrity, making it impossible to generate useful insights or support decision-making.

Operational efficiency is another area strongly affected by inconsistent data. As Swift (2025) points out, today's organizations rely on accurate and consistent data for analysis and reporting. Inconsistencies increase the risk of making errors.

In my previous role at *MTN GHANA*, it was difficult to produce reliable reports for our internal sales performance meetings due to data inconsistencies. Accurate electronic sales reports were crucial for identifying areas where the company lacked market coverage. These reports helped management make decisions about where to expand. However, due to missing or incomplete data in some regions, especially where there was no record of electronic sales activity, it was difficult to get a clear view of underserved regions.

Furthermore, customer service operations are severely impacted by inconsistent data. Service representatives, who depend on incomplete customer data, often struggle to provide proper support, which leads to frustration for both the customer and the employee.

2.3 Absence of Data Governance and Standardized Data Management

One of the main challenges weakening the online retail company's data quality and ability to turn data into meaningful insights is the *absence of a comprehensive data governance framework.* An organization operating without clear policies, assigned roles, or consistent processes for effective data management is likely to face serious challenges.

IBM (2024**)** describes data governance as a structured approach to managing data quality, security, and availability of an organization's data. Data governance helps promote data integrity and data security by implementing clear policies, standards, and procedures for how data is collected, owned, stored, processed, and used.

2.3.1 Causes of Absence of Data Governance and Standardized Data Management

Lack of awareness or understanding of data's strategic value is a primary contributing factor. Many stakeholders from operational staff to senior management often don't see the relevance of data as an organizational asset that requires proper oversight and management.

In my previous role at *MTN Ghana*, I saw this firsthand. The importance of data was often overlooked by various levels of staff, including field workers, sales officers, the area managers, and even some senior managers.

A second cause of the absence of data governance and standardized data management is a *decentralized organizational structure and culture*. According to AIHR (n.d.), this type of framework allows decision-making power to spread across different levels of the organization, meaning that mid- and lower-level managers can make decisions without the approval from senior leadership.

While decentralization offers flexibility, it can also make it difficult to establish consistent data management across the company. Departments often operate in silos, which limit departmental communication and collaboration. This often results in data discrepancies. The following section will elaborate on the impact of this challenge in more detail.

2.3.2 Consequences of Absent Data Governance and Standardized Data Management

Lack of data governance and standardizations poses several risks for online retailers. One major risk is *unsafe and decentralized data storage.* Sensitive information saved on personal computers and unchecked local servers results in significant *data* security risks, especially for the online retailer mentioned in the task given. Client data would be at high risk of loss due to theft, system failure or damaged devices. Such incidents can cause the organization substantial harm or result in major fines for violating data privacy laws.

Additionally, a *lack of data ownership* contributes to inefficiencies. Without consistent and reliable data, employees must spend extra time confirming information before using it, which leads to delays and increased expenses.

Finally, incorrect data affects accurate reporting, important analytics, and high-quality data-driven decisions, slowing down innovation and digital advancement, putting the online retail business at a disadvantage in a competitive market.

2.4 Poor Inter-departmental Data Sharing

Another critical challenge arising from the absence of data governance is *poor inter-departmental data sharing.* As highlighted in the task, the independent use of data by each department poses a significant risk to the online retail business.

2.4.1 Causes of Poor Inter-departmental Data Sharing

Poor data sharing between departments doesn't happen by accident. It originates from several organizational and cultural factors that actively impede smooth data flow. According to CoffeePals Team (2025), barriers to inter-departmental communication often lead to poor data sharing in companies, just as we see in the online retail business.

As CoffeePals Team (2025) highlights, *the silo mentality* comes into play when departments work on their own and prioritize their own goals. As a result, they hold onto data rather than sharing it as an organizational asset.

I experienced this at MTN Ghana. Area Heads, eager to boost their own departmental sales performance, would recruit new field agents but refuse to share that relevant information with me. Because of this, I couldn't add the new agents to the system. This directly hindered our ability to gain a complete picture of how many agents were active in the field.

Secondly, CoffeePals Team (2025) emphasizes that departments often struggle to share information effectively due *to the lack of clearly established communication channels*. They explain that even when a department wishes to share data, the absence of structured communication leads to misunderstanding and delays.

Thirdly, departments often have *different work cultures*, influencing their work styles and how they communicate. CoffeePals Team (2025) highlights that these distinctions can easily lead to misunderstandings. When it comes to data sharing, variations in how department handle data, store, or value data can create tension and make collaboration difficult.

Lastly, trust is a key part of effective collaboration and communication, as emphasized by CoffeePals Team (2025). When departments have *trust issues*, they tend to withhold information, leading to less willingness to share valuable data, insights, or feedback. This reluctance ultimately affects the overall performance of the organization.

2.4.2 Consequences of Poor inter-departmental data sharing

Poor inter-departmental data sharing results in decision-making and operational inefficiency. When teams don't share information effectively, companies face delays in accessing relevant data, which results in duplicated work, inconsistent reports, and slow workflows.

According to the *IBM center for the Business of Government*, the siloed data system makes quick decision-making very challenging and reduces the organization's ability to distribute resources efficiently.

Another major consequence is the *deterioration of organizational accountability and trust*. Without transparency, it becomes hard to trace mistakes or hold teams responsible for outcomes. This can create a blame culture, where departments point fingers instead of working together. Over time, employees become reluctant to rely on shared information for important choices as trust in the data itself and between teams begins to erode, making it challenging for employees to rely on shared data for decision-making.

3 Data Quality Management Strategic Plan

The following strategic plan addresses each of the identified challenges by applying relevant frameworks and techniques from the course material. The proposed actions are also supported by academic literature and real-world best practice examples to ensure practical and sustainable solutions.

3.1 Resolving Data Silos and Communication Gap

To address departmental data silos and improve communication across the organization, the following techniques from the course will be applied: *Data Stewardship, Business Glossary, and Metadata Management.*

- Data stewards will be assigned to each department to develop and enforce data governance policies and oversee implementation other data quality improvement plans. These stewards will ensure that data activities follow agreed quality standards set by the Chief Data Officer. According to Chaffin (2024), data stewards play a pivotal role in today's fast-moving organizations. They don't just manage and protect data, they also help the business get real value from it by supporting better decisions, encouraging innovation, and helping the company grow.

  Real-life example: *Procter and Gamble* used a centralized data governance model with data stewards and a shared data platform to manage data across 32 system applications and products in data processing (SAP). This reduced silos, improved data quality, and helped teams work together more effectively (Dilmegani and Palazoglu, 2025).

- A business glossary will be created to define key terms such as customer, order, revenue, in a clear and consistent way. This enables all departments to interpret and use data consistently, making ongoing data quality improvement more achievable. According to Vavruska (2021), a business glossary also helps users identify which business terms are linked to specific data quality rules. This adds traceability by showing how definitions and metrics relate to actual data quality checks.
  Real-life example: *Google Cloud* developed an internal business glossary that not only defines key terms but also links them to relevant documentation and allows users to suggest updates. This improved cross-team understanding and usage data, promoting collaboration and clarity (FasterCapital, n.d.).

- Metadata management will be strengthened to reduce data silos and improve communication. This approach aligns with ISO 8000-61 standard, which emphasizes continuous improvements by documenting data origins and transformation. According to Luther (2022), metadata helps explain what data is about by providing a clear structure and shared terminology. This method helps employees find correct use and organize data for future needs.
  Real-life example: *Airbnb*, which built an internal metadata platform to help teams effortlessly find and trust data. This reduces confusion and enhances cross-functional collaboration. Together, these techniques help break down data silos and promote stronger collaboration across departments *(Atlan, 2022).*

3.2 Resolving Inconsistent Data Storage Procedures

To address the inconsistent data storage procedures across departments, three key techniques introduced in the course will be applied: *Standardized Data Modeling, Master Data Management (MDM), and Centralized Data Architecture.* These methods aim to improve the online retail business's data quality management and help reach *Capability Level 3 under the ISO 8000-61 framework.*

- We will employ standardized data modeling, enterprise-wide data models and format standards such as consistent customer IDs and product codes, which will be established and put into practice. This will reduce confusion, remove duplicates, and keep naming styles consistent. According to Data Management Association - Data Management Body of Knowledge (DAMA-DMBOK 2017) standardizing how data is structured enhances clarity, consistency and makes it easier to connect data across departments.
  Real life example: *Microsoft* created a Unified Data Model (UDM) to ensure key business terms like customer, developer, or transactions are defined and used consistently across all

internal systems. This approach enhanced consistency, scalability, and maintained strong data governance across teams and systems (Ganesh, Sood and Cook, 2025).

- Master data management (MDM) will be implemented to synchronize key business entities such as customers, products, and vendors and remove duplicate and inconsistent core information. According to Shaikh et al. (2023), organizations introducing new technology without changing how employees handle master data will not realize the full benefits of MDM. That is why it is important to employ change management to assist staff in understanding the new ways of working as they adapt to the changes brought by master data management. For this reason, change management will also be applied to reap full benefits, and this topic will be discussed in detail in the next plan.

  Real-life example: *Nestle* improved its master data management by using the Global Data Synchronization Network (GDSN). They cleaned up their product data by updating all the stock-keeping units (SKUs) and removing the ones no longer in use. This enhanced data accuracy and consistency across systems (GS1 US, 2022).

- Centralized data architecture and storage governance will be established to combine data into a centralized, regulated data warehouse. Strict adherence to storage policies such as lifecycle, access, and versioning, as well as clear documentation will be enforced. This method offers numerous benefits such as improved data quality, tighter security, faster decision-making, and easier day-to-day operations (Rockket, 2023).

  Real-life example: *Netflix* moved to Snowflake, a cloud data warehouse, to achieve unified and streamlined data access and, most importantly, consistency across teams. By applying the capability level 3 techniques described above, the online retail business will root out inconsistencies in data storage, increase reliability, and support data analytics and, most importantly, decision-making (Acceldata Product Team, 2022).

3.3 Resolving the Absence of Data Governance and Standardized Management

To resolve *the lack of data governance and standardized management, Data Governance Frameworks, Continuous Training, and Change Management* will be established in alignment with achieving *Capability Level 3* within the *ISO 8000-61* data quality management standard.

- *Data governance frameworks* will be implemented to improve data ownership, roles, responsibilities and how issues are handled. A Data Governance Council will be established to oversee strategic decisions, backed by a formal data policy. According to Kimachia

(2025), the main reason for putting a data governance framework in place is to establish a structured system for managing data across its lifecycle. This includes setting clear rules and standards, assigning ownership and stewardship roles, and building processes for handling data quality, security, compliance, and privacy. The goal is to build a company culture where data is viewed and treated as a valuable business asset. Implementing this technique will reduce data errors, improve compliance, and enable faster reporting cycles.
Real-life example: *Intel* developed a worldwide data governance council to harmonize data policies across business units, increasing data accountability and reducing redundancy. (Intel Corporation. n.d).

- Continuous training and change management will be employed to educate employees on governance policies, roles, and procedures to ensure long-term adoption and promote a data-driven culture. According to Abbas (2023), by implementing change management as part of data governance, companies can create a strong data culture, improve data quality and compliance, and make better use of their data to support smart decisions and business growth.
  Real-life example: *Microsoft* implemented a clear change management plan, using the ADKAR model (Awareness, Desire, Knowledge, Ability and Reinforcement), along with regular feedback and role-specific training to roll out a unified sales tracking system across their global teams (Hiat, 2006).

3.4 Resolving Poor Interdepartmental Data Sharing

Cross-Functional Data Collaboration, Shared Analytical Platforms, and Feedback loops will be employed to improve interdepartmental data sharing, *benefiting from standardized processes and holistic data quality management established at Capability Level 3 under the ISO 8000-61 framework.*

- Teams for cross-functional data collaboration will be established with representation from different departments to address issues, align data goals, and encourage data sharing. According to Morrow (2024), effective data collaboration promotes teamwork, the sharing of insights and ideas, and enhances informed decisions for business growth.
  Real-life example: Cross-functional teams work together on customer-functional metrics and data as part of Amazon's Working Backwards strategy to enhance shared insights (Bryar and Carr,2021).

- Shared Analytical Platforms will be employed to enable centralized data access and collaboration. Using a shared analytical platform makes it easier for all departments to access the same data, reducing duplication and supporting a unified decision-making process.

Centralized data exchange promotes collaboration and flexibility, ensures compliance and helps reduce costs (Balkan, 2023).

Real-life example: Maersk, a global shipping company, improved its supply chain, customer service, and IT teams by implementing data sharing across global operations to encourage teamwork, smooth operations, and transparency (Cio, 2015).

- Feedback loops will be implemented to enable continual data quality improvement by involving data users in reporting concerns and needs. According to Durdan (2024), feedback loops to help organizations grow and adapt in a changing business world. When properly established, they support ongoing improvement and assist teams in staying focused on the bigger goal. Feedback loops are not just about meetings; they are a crucial part of business evolution.

  Real-life example*: Google* incorporates feedback from internal data consumers into data development to ensure continuous quality improvement. These approaches will promote a collaborative data culture, enabling departments to share insights and work toward common business objectives (Sherman and Maokhina, 2020).

4 Meta-Level Reflection and Conclusion

This strategic plan effectively addresses the different challenges of data quality management within an online retail business. It shows an understanding of how various data management concepts connect with each other to develop robust and sustainable solutions.

The strength of this strategic plan lies in its comprehensive approach, recognizing that data quality is not just a technical issue but a collaborative effort involving an organization's processes and technological factors. *Data Silos and Communication Gaps, Inconsistent Data Storage, Absence of Data Governance and Poor Interdepartmental Data Sharing* were discussed separately yet as interrelated challenges, the strategy provides solutions that establish data integrity.

A major emphasis is the constant application of course material, such as Data Stewardship, Business Glossary, Metadata Management, Standardized Data Modelling, Master Data Management (MDM), Centralized Data Architecture, Data Governance Frameworks, Continuous Training and Change Management, Cross-Functional Data Collaboration, Shared Analytical Platforms, and Feedback Loops. This shows a clear understanding of core data management principles.

The strategic approach is also reliable because it is backed by evidence. Every solution presented is based on:

Current Academic Literature: Depending on recent publications such as Kimachia 2025, Chaffin 2024, Morrow 2024, Abbas 2023, Shaikh et al. 2023, Durdan 2024, which reflects current best practices and strengthens the plans credibility.

Real-World Best Practice Examples: Including examples from industry leaders such as Intel, Microsoft, Amazon, Google, P and G, Netflix, Airbnb, and Maersk, offer clear practical evidence. These examples show how the proposed techniques work in practice, making the plan practical and easy to apply.

This clear goal of reaching Capability Level 3 under ISO 8000-61 gives the plan a measurable benchmark for data quality maturity, showing a professional commitment to global standards.

Highlighting change management and ongoing training is a strong point. It rightly recognizes that technical fixes alone are not enough. Successful adoption depends on the people and the culture. The balanced focus on technology, people and processes makes the solutions practical and lasting.

In conclusion, this strategic plan offers a well-researched and practical roadmap to improve data quality. By carefully tackling each challenge with strategic methods, current academic knowledge, and relevant real-world examples, it provides a strong foundation for the online retail business to build a data-driven culture, enhance decision-making, and support sustainable growth.

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